WEST Search History

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DATE: Friday, August 06, 2004

Hide?	Set Name	Query	Hit Count
		DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=ADJ	
☐	L10	(supervisor near8 (select or selection) near8 (parameter or performance)) and ((resource or call or agent or center) near8 (allocate or allocation or handle or handling))	3
☐	L9	(supervisor near8 (select or selection) near8 (parameter or performance)) same ((resource or call or agent or center) near8 (allocate or allocation or handle or handling))	0
☐	L8	(intelligent adj3 (agent or based)) near8 (resource or call) near8 (allocate or allocation or handle or handling)	6
☐	L7	(intelligent adj3 (agent or based)) near8 supervisor	4
☐	L6	(intelligent adj3 (agent or based)) near8 supervisor near8 (resource or center or call or agent)	1
☐	L5	(intelligent adj3 agent) near8 supervisor near8 (resource or call or agent)	1
☐	L4	(intelligent adj3 agent) near8 supervisor near8 (resource or call or agent) near8 (allocate or allocation)	0
☐	L3	(intelligent adj3 agent) near8 supervisor near8 (resource or call or agent) near8 (allocate or allocation) near8 (performance or parameter)	0
		DB=USPT; PLUR=YES; OP=ADJ	
☐	L2	L1 and (supervisor or screen or terminal)	1
☐	L1	5903641.pn.	1

END OF SEARCH HISTORY

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L7: Entry 4 of 4   File: DWPI   Jul 12, 1994

DERWENT-ACC-NO: 1994-225353
DERWENT-WEEK: 199427
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TITLE: Dispatching of elevator cars – using supervisor which includes hardware and intelligent e.g. rule-based software to monitor crowd signals generated by advanced dispatcher subsystem

Basic Abstract Text (2):
The supervisor includes hardware and intelligent e.g. rule-based software to monitor the crowd signals generated by an advanced dispatcher subsystem and the incoming data from car controllers to decide the optimal operation. These rules look at the predicted crowds, presence of hall call, number of crowd signals active for the entire building, number of people actually behind the call and number of cars in the group to make the final decision.

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L10: Entry 1 of 3   File: PGPB   Dec 27, 2001

DOCUMENT-IDENTIFIER: US 20010056367 A1
TITLE: Method and system for providing performance statistics to agents

Summary of Invention Paragraph:
[0007] The present invention provides a method and a system through which an agent
may readily access comparison information between the individual agent and the peer
groups of the agent. The method and system comprise obtaining information from one
or more contact handling systems regarding the number and types of contacts for
each agent and groups of agents. Reports are generated from the information and
made available to the agents.

Detail Description Paragraph:
[0032] A columns group box 320 enables a supervisor 142 to select specific
performance statistics which may be accessed by agents 132 identified by the MU 220
drop down box 310 and the group value 312. The performance statistics, listed in
the column field 322, preferably comprise the in contacts, the talk time, the work
time, the total time, the AHT, the AWT, the ATT, the out calls, the out time, and
the system time. Optionally, additional performance statistics, such as available
time, aux time, and the like, may be included in the column field 322. The
supervisor 142 controls access to the performance statistics by
selecting/deselecting the show checkbox 324. If the show checkbox 324 is selected,
the agent 132 may view the value of the respective performance statistic. If the
show checkbox 324 is deselected, however, the agent 132 is prevented from viewing
the respective performance statistic.

Detail Description Paragraph:
[0052] The daily totals section 520 comprises one or more daily total rows 522a-
522e for each date from the from date 510 to the to date 512, of which daily total
row 522a is shown in an exploded state, daily total rows 522b-522c are shown in a
contracted state, and daily total rows 522d-522e are shown in an empty state,
possibly indicating the agent did not work the date shown. Each daily total row
522a-522e preferably expands to present daily totals for an agent data group 526
and an MU 528. Optionally, also presented are one or more daily skill totals 530
and/or one or more daily queue totals 540. The daily skill total 530 presents the
performance statistics 526 for the agent 132. The daily skill total 530, such as
the ability to handle Spanish-speaking calls (illustrated), product and/or problem
type, and the like, preferably expands to present the daily skill total of the
agent data group 532 and/or the daily skill total of the MU 534.

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L10: Entry 3 of 3   File: USPT   Mar 29, 1994

DOCUMENT-IDENTIFIER: US 5299260 A
** See image for **Certificate of Correction** **
TITLE: Telephone call handling system

Abstract Text (1):
A system for automatically handling incoming telephone calls. The system receives
an incoming call and telephony information about the incoming call, and, using a
call discrimination subsystem and based on the telephony information, assigns
control of the call to one of a plurality of possible application programs. At
least one application program includes queries for obtaining further information
about the call and returns control of the call to the call discrimination subsystem
to reassign the call based on the telephony information and the further
information. The system selects an application program by comparing telephony
information about the call with telephony digit patterns that correspond to
different types of telephony information and that have been input by a user to be
associated with an application program. Other features of the system are directed
to selecting agents to handle incoming calls based on a list of quantitative agent
performance values that are continuously updated by a monitoring system. In some
cases, multiple, user-selectable lists are maintained. Also, offset values are used
to modify the agent performance values when selecting an agent. When an agent is
selected, the system provides on command of a plurality of possible commands
regarding the handling of the incoming call depending upon which agent has been
selected. The system also counts the number of incoming calls and handles a
preselected number of the calls in a different manner than the remainder of the
calls.

Brief Summary Text (2):
The invention relates to systems for automatically handling incoming telephone
calls.

Brief Summary Text (3):
An automatic call distributor (ACD) is a type of system for automatically handling
incoming telephone calls. An ACD is designed to efficiently route calls, such as
toll-free "800" calls, to agents in telemarketing and service inquiry centers and
provides specialized real-time call management and report generation capabilities.
An ACD is a unique communications product in that it directly supports the
operation and management of a customer's business. The ACD monitors the status of
each agent and, when an incoming call is received, selects the agent best able to
handle a particular marketing or service request. The ACD also provides detailed
reporting on the performance of the agents in their tasks, reporting such
statistics as the number of calls handled and the time spent in various stages of
call handling.

Brief Summary Text (4):
ACDs can have different application programs to handle calls in different ways,
e.g., one application program to handle sales calls and a different application
program to handle service calls.

Brief Summary Text (6):

In one aspect, the invention features in general automatically <u>handling incoming telephone calls</u> by a call discrimination subsystem that receives telephony information about the incoming telephone calls (e.g., number dialed, incoming line, number of caller) and assigns the incoming telephone <u>call to one of a plurality of possible application programs to handle the call</u> based upon the telephony information. At least one of the application programs includes queries for obtaining further information about the incoming call (e.g., in response to questions to the caller by a voice response unit or customer information on file) and thereafter the incoming call is returned to the subsystem to reassign the call based upon the original telephony information and the further information that was obtained.

<u>Brief Summary Text</u> (7):
In another aspect, the invention features, in general, automatically <u>handling incoming telephone calls</u> by comparing telephony information about the call with telephony digit patterns that have been input by a user and are associated with a respective application program. The digit patterns include patterns for plural fields corresponding to different types of telephony information. The call discrimination subsystem includes a translation module that translates the patterns into assignment logic for assigning the incoming calls. The translation module treats all patterns in the same field as logical OR operations and patterns in different fields as logical AND operations in creating the assignment logic. The assignment logic created by the translation module includes a global name table that lists a global application index (GAI) for each possible application program, a global-to-local application table (GLAT) for each field, and a field matrix (FM) for each field; the GLAT matches each GAI to local application indexes (LAI) that each identify a telephony pattern associated with an application program; the FM includes sets of pattern digit values along one axis and pattern digit positions along another axis and sets of LAI values at the intersections of digit values and digit positions.

<u>Brief Summary Text</u> (8):
In another aspect, the invention features in general selecting <u>agents to handle incoming calls</u> by maintaining a list of quantitative agent performance values that are continuously updated by a monitoring system. E.g., the total sales made by each agent can be monitored so that the call can be first directed to the agent making the most sales. The system could also monitor the average time spent by each agent per call and direct the call to the agent having the lowest (or highest) average time values.

<u>Brief Summary Text</u> (9):
In another aspect, the invention features in general, selecting <u>agents to handle incoming calls</u> by maintaining a plurality of lists of quantitative selection values that correspond to different criteria for agent selection, and providing a means for the user to select which list, and thus which criterion, is employed in selecting agents. The criteria can include total sales made by each <u>agent, an average time to handle each call</u> by each agent, an agent performance rank assigned to each agent, and a waiting time list listing the amount of time each agent has been ready to receive a call.

<u>Brief Summary Text</u> (10):
In another aspect, the invention features in general automatically <u>handling incoming calls</u> by maintaining a list of quantitative agent selection values (not necessarily related to agent performance) and modifying the selection values based upon respective offset values assigned to the agents in order to obtain effective selection values for the agents. This gives the user flexibility in employing quantitative selection values, e.g., permitting the user to guarantee that a new agent is not receiving too many calls, even if he might be achieving high total sales or low times per call when selection values are based on one of these criteria.

<u>Brief Summary Text</u> (11):
In another aspect, the invention features automatically <u>handling incoming telephone</u> <u>calls</u> by a system that selects one agent of a plurality of agents to receive the <u>call and provides one command of a plurality of possible commands regarding the</u> <u>handling of the incoming call</u> depending upon which agent has been selected.

<u>Brief Summary Text</u> (12):
In preferred embodiments, the command can be a command to play a message to the caller, a command to communicate with an agent supervisor regarding the call, a command to obtain information from an external database and to send the information prior to connecting the incoming <u>call, or a command to take some action after the</u> <u>agent has completed handling the incoming call</u> and has been disconnected from the incoming call. The various commands can be entered by a user of the system using an interactive input device. The input device is adapted to input a list of agent pool identifiers and actions to be taken before connecting the incoming call to an agent in the indicated pool and actions to be taken after the incoming call has been disconnected from an agent in the indicated pool. The system translates the list into a list of pointers to instruction lists that provide the commands to cause the indicated actions.

<u>Brief Summary Text</u> (13):
In another aspect, the invention features in general automatically <u>handling</u> <u>incoming telephone calls</u> by a system that counts the number of incoming <u>calls (or</u> <u>the number of incoming calls that have reached a specified step in the call</u> <u>handling process) and handles a portion of the total number of calls</u> by a different method than the remainder of the calls. E.g., an agent supervisor can be connected to listen to a conversation between an agent and a caller making an incoming call; alternatively, the agent supervisor can be selected as the agent to receive an incoming call in order to sample the types of incoming calls, or different messages can be played to different incoming callers to evaluate the effectiveness of the messages.

<u>Drawing Description Text</u> (2):
FIG. 1 is a block diagram of a system for automatically <u>handling an incoming</u> <u>telephone call</u> according to the invention.

<u>Drawing Description Text</u> (3):
FIG. 2 is a block diagram of the software architecture used in a <u>call router of the</u> <u>FIG. 1 automatic call handling</u> system.

<u>Detailed Description Text</u> (2):
Referring to FIG. 1, the various components of an automatic <u>call handling</u> system are shown. The <u>call handling system distributes incoming calls</u> from callers 12 to agent stations 14 that are connected to public telephone network 16. (In fact there would be a much larger number of both callers and <u>agents.) The call handling system</u> <u>includes call</u> router 18, call center manager module 20, agent supervisor station 22, host database 24, and voice response unit 25. These components and agent stations 14 are each connected to public telephone network 16 via a network service interface, which in the preferred embodiment is an integrated systems digital network (ISDN) interface. Call router 18 is used to cause network 16 to connect an incoming call of a caller 12 to one of the agent stations 14. Call router 18 selects the agent station 14 to receive an incoming call based upon user-selected criteria, including dynamically changing information as to agent performance, which is monitored by the system. Call center manager console 20 provides an interface for the system manager to input information to configure the operation of system (as is described in detail below) and to monitor the operation of the system. Agent supervisor station 22 is used to monitor the performance of agents by an agent supervisor. Host database 24 and external database 25 include business databases (e.g., order entry, customer information, service schedules) which are accessed by

call router 18. The hardware platforms employed in the components of the call handling system and various control algorithms are as described U.S. Pat. No. 5,036,535 which is hereby incorporated by reference.

Detailed Description Text (7):
The general operation of call handling system will be described first, and then the user configuration and operation of the call discrimination, agent selection and before/after subsystems will be described in turn in detail.

Detailed Description Text (8):
When an incoming call is received by call router 18, a call record is established in memory in call router 18 to store data about the call that can be accessed by and added to by various processes in call router 18. In the initial stage of routing, routing interpreter 34 calls call discriminator 38 to determine which application program (e.g., sales or service or a particular sales or service application program) within routing interpreter 34 should be employed to handle the call. The selected application program is then used to continue processing, which generally includes identification of an agent pool or pools from which an agent can be selected to handle the call and adding entries identifying the pool and specifying actions to be taken during continued handling of the call to the call record. State manager 32 then adds the call to the queue for an agent pool, employing agent selector mechanism 36 to choose between available agents. When an available agent has been selected, the selected agent identification is added to the call record. Event handler 30 then takes the actions indicated in the call record, generally including transferring the incoming call to the selected agent by instructing network 16 to transfer the call to the selected agent station 14. Information regarding the calls and the status of agents is continuously transferred between call router 18 and agent stations 14 and other components of the call handling system over the X.25 network.

Detailed Description Text (10):
Call discriminator 38 accesses telephony information about an incoming telephone call (e.g., number dialed, incoming line, number of caller) in the call record and assigns the incoming telephone call to one of a plurality of possible application programs to handle the call based upon the telephony information. In assigning an application program, call discriminator 38 compares the telephony information associated with an incoming call with the digit patterns of telephony data associated with the various application programs in call discriminator table 40.

Detailed Description Text (36):
After an application program has been selected, routing interpreter 34 continues processing handling of the incoming call according to that application program. Call discriminator 38 can be recalled from an application program after more information has been obtained about the call. An application program that does not have the DIALED field may direct a call to voice response unit 25, which then asks the caller to enter digits in response to prompts and then returns control to call discriminator 38 to traverse field table 40 once again, this time with digits in the DIALED field, now permitting a match with an application program that has digit patterns for the DIALED field. No incoming call would ever be transferred directly to an application program having digit patterns for the DIALED field. An advantage of the invention is that it allows a refinement of the call discrimination (separating calls on the basis of the dialed digits in the example above) by simply listing more applications and patterns, without the need for user programming in the call processing programs.

Detailed Description Text (42):
average time to handle a call.

Detailed Description Text (46):
FIG. 6 lists ranking criterion and offsets that could be selected depending upon

whether the agents are in sales, service or support pools. The agent selector mechanism thus allows agents in an agent pool to be assigned calls based on a user defined criterion, permitting a <u>supervisor to affect agent selection in a way that is designed to promote performance</u> or meeting other call center objectives. The offset feature permits the supervisor to fine tune the system based upon the unique characteristics of the individual agents in the agent pool.

<u>Detailed Description Text</u> (48):
5 The before/after mechanism is used to specify actions to be taken before and after actual <u>handling of a call</u> by an agent. It is implemented as an integral part of routing interpreter 34 that is configured by the system manager using a simplified language. The mechanism is employed during running of an application program prior to agent selection to identify what actions are to be taken. Pointers to lists of instructions for the actions are placed in the call record for a call at the time of assigning an agent pool, and the identified actions are then executed after the selection of an agent. The specified actions can be different for each agent pool before which the call is queued, and are triggered only if the call is transferred to an agent in the corresponding pool.

<u>Detailed Description Text</u> (53):
FIG. 7 shows the effect that the before/after mechanism has on <u>call handling as seen by the agent</u>. The first screen shows the screen when an agent in the SALES1 agent pool is ready for a call. After a call has been assigned to this agent and before it is actually transferred to him, the DumpCallData command of the before mechanism results in call information (e.g., from a customer file) appearing on the screen at that agent station 14. After the call has been released by the agent, the after mechanism executes the ChangeAgentScreen command, resulting in the last screen on FIG. 7, used, e.g., to enter follow-up information about a call before going into the ready state to take another call. The before/after mechanism thus permits the system manager to easily configure the system to automatically change the way that an agent station operates depending on what application program is employed and what pool of agents receives the call.

<u>Detailed Description Text</u> (63):
Example 2 illustrates the ability of <u>call router 18 to count the number of incoming calls and to handle a portion of the total number of calls</u> by a different method than the remainder of the calls. In Example 2, for 1% of the incoming calls, the agent supervisor is connected to listen to a conversation between an agent and a caller. Alternatively, the agent supervisor could be selected as the agent to receive an incoming call in order to determine the types of incoming calls. Instead of counting all incoming calls, the <u>call router could count calls that have reached a specified step in the call handling process, e.g., calls</u> that have waited 45 seconds. The sample capability could also be used to play different messages to different incoming callers to evaluate the effectiveness of the messages.

CLAIMS:

1. A system for automatically <u>handling incoming telephone calls</u> comprising

means for receiving an incoming call arriving at an incoming line,

means for receiving telephony information about said incoming call,

means for assigning said incoming call to be controlled by one of a plurality of possible application programs based upon said information, each said application program including a set of user defined steps for <u>handling an incoming call,</u> said means for assigning including a call discrimination subsystem that is separate and distinct from said application programs,

at least one of said application programs including queries for obtaining further

information about said call, and

means for returning control of said incoming call to said call distribution
subsystem when said incoming call is controlled by said at least one application
program and said at least one application program obtains said further information,
said call discrimination subsystem reassigning said call to be controlled by one of
a plurality of possible application programs based upon said telephony information
and said further information.

7. A system for automatically handling incoming telephone calls comprising

means for receiving an incoming call arriving at an incoming line,

means for receiving telephony information about said incoming call,

means for assigning said incoming call to be controlled by one of a plurality of
possible application programs based upon said telephony information, each said
application program including a set of user defined steps for handling an incoming
call, said means for assigning including a call discrimination subsystem that is
separate and distinct from said application programs, and

input means for a user to enter telephony digit patterns that are associated with
respective said application programs, said digit patterns including patterns for
plural fields corresponding to different types of telephony information,

wherein said call discrimination subsystem compares said telephony information with
said digit patterns when assigning said incoming call.

21. A system for automatically handling incoming telephone calls comprising

means for receiving an incoming call,

means for maintaining a list of quantitative agent performance values for possible
agents for receiving said incoming call, said agent performance values relating to
the performance of respective, individual said agents in achieving performance
goals relating to success of a business,

input means for a user to enter data describing the success of an agent in
achieving said business performance goals on incoming calls,

means for monitoring respective performances of said individual agents based upon
said data describing success and updating said performance values, and

means for selecting one of said possible agents to receive said incoming call based
upon said performance values.

23. A system for automatically handling incoming telephone calls comprising

means for receiving an incoming call,

means for maintaining a list of quantitative agent selection values for possible
agents for receiving said incoming call, said quantitative agent selection values
relating to respective, individual said agents,

means for modifying said selection values for individual agents based upon
respective offset values assigned to said agent selection values, and

means for selecting one of said possible agents to receive said incoming call based
upon said selection values in the list.

24. A system for automatically <u>handling incoming telephone calls</u> comprising

means for receiving an incoming call,

means for maintaining a plurality of lists of quantitative agent selection values for possible agents for receiving said incoming call, said quantitative agent selection values relating to respective, individual said agents,

each said list corresponding to a different criteria of agent selection,

input means for a user to select which said list is to be employed in selecting an agent for said call, and

means for selecting one of said possible agents to receive said incoming call based upon said selection values in the list selected via said input means.

26. The system of claim 24 wherein said lists include a <u>call time list that lists the average time to handle a call</u> by each agent.

29. A system for automatically <u>handling incoming telephone calls</u> comprising

means for receiving an incoming call,

means for selecting one agent of a plurality of possible agents to receive said incoming call, said means including queuing before a plurality of agents and selecting an agent of said plurality after said agent becomes available, and

means for providing one command of a plurality of possible user defined commands regarding how said incoming call is handled apart from the routing to said agent, the selection of said one command being dependent upon which agent has been selected.

38. The system of claim 29 further comprising means for counting the number of incoming calls and, for a preselected number of incoming <u>calls that is smaller than the total number of incoming calls, provide a command for handling the smaller number of incoming calls</u> in a different manner than the remainder of the incoming calls.

39. The system of claim 29 further comprising means for counting the number of incoming <u>calls that have reached a specified step in the handling of said incoming calls</u> and, for a preselected number of incoming calls that have reached said specified step that is less than the total number of incoming <u>calls reaching said specified step, handling the smaller number of incoming calls</u> in a different manner.

40. The system of claim 28 wherein said <u>handling in a different manner includes communicating with an agent</u> supervisor regarding an incoming call.

43. The system of claim 38 wherein said handling in a different manner includes playing a message that is not played during <u>handling of the other incoming calls</u>.

44. A system for automatically <u>handling incoming telephone calls</u> comprising

means for receiving an incoming call,

means for selecting one agent of a plurality of possible agents to receive said incoming call,

means for providing a command regarding the <u>handling of said incoming call,</u> and

means for counting the number of incoming calls in order to select a percentage of incoming <u>calls out of the total number of incoming calls and for providing a</u> <u>command for handling the selected percentage of incoming calls</u> in a different manner than the remainder of the incoming calls.

45. The method of claim 44 wherein said <u>handling in a different manner includes</u> <u>communicating with an agent</u> supervisor regarding an incoming call.

48. The method of claim 44 wherein said handling in a different manner includes playing a message that is not played during <u>handling of the other incoming calls</u>.

49. A system for automatically <u>handling incoming telephone calls</u> comprising

means for receiving an incoming call,

means for selecting one agent of a plurality of possible agents to receive said incoming call,

means for providing a command regarding the <u>handling of said incoming call,</u> and

means for counting the number of incoming <u>calls that have reached a specified step</u> <u>in the handling of said incoming calls</u> in order to select a percentage of incoming calls out of the total number of incoming <u>calls that have reached said specified</u> <u>step and for providing a command for handling the selected percentage of incoming</u> <u>calls</u> in a different manner than the remainder of the incoming calls.

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